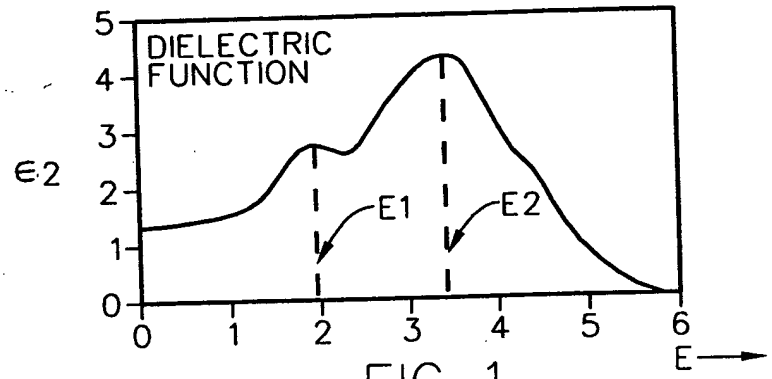

FIG. 1

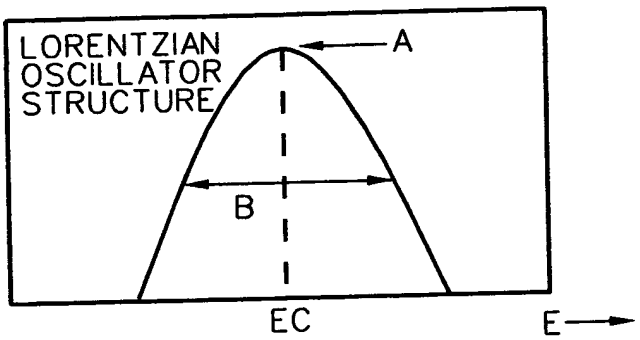

FIG. 2

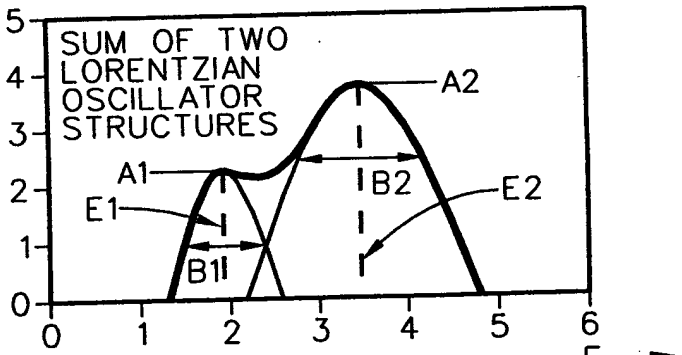

FIG. 3

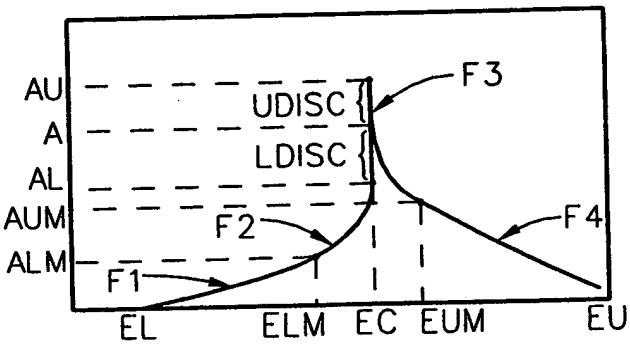

FIG. 4a

AU = A(1 + DISC)
AL = A(1 - DISC)
AUM = AU Uamp
ALM = AL Lamp
EUM = EC + (EU - EC) Upos
ELM = EC + (EC - EL) Lpos

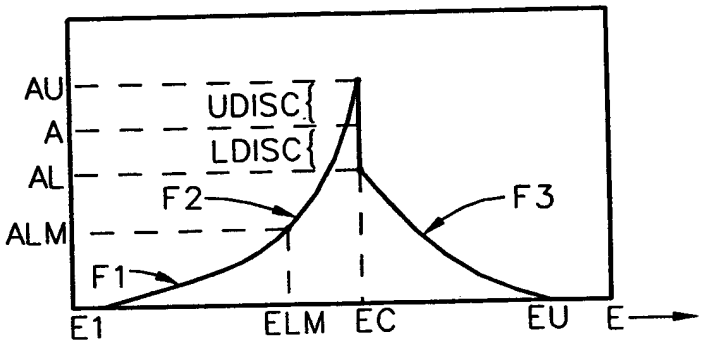

FIG. 4b

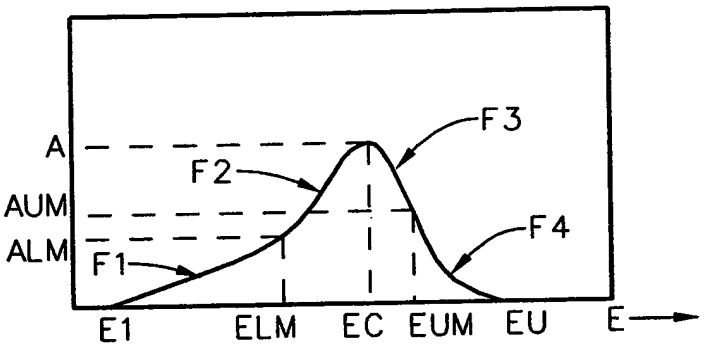

FIG. 4c

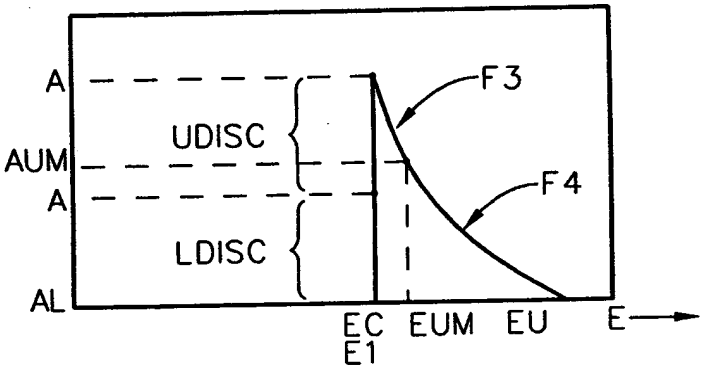

FIG. 4d

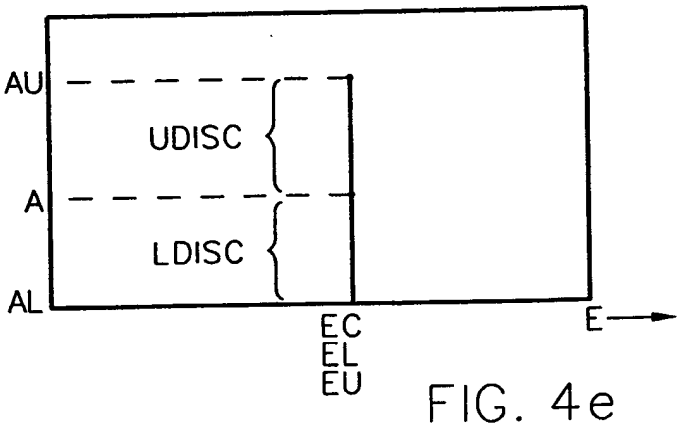

FIG. 4e

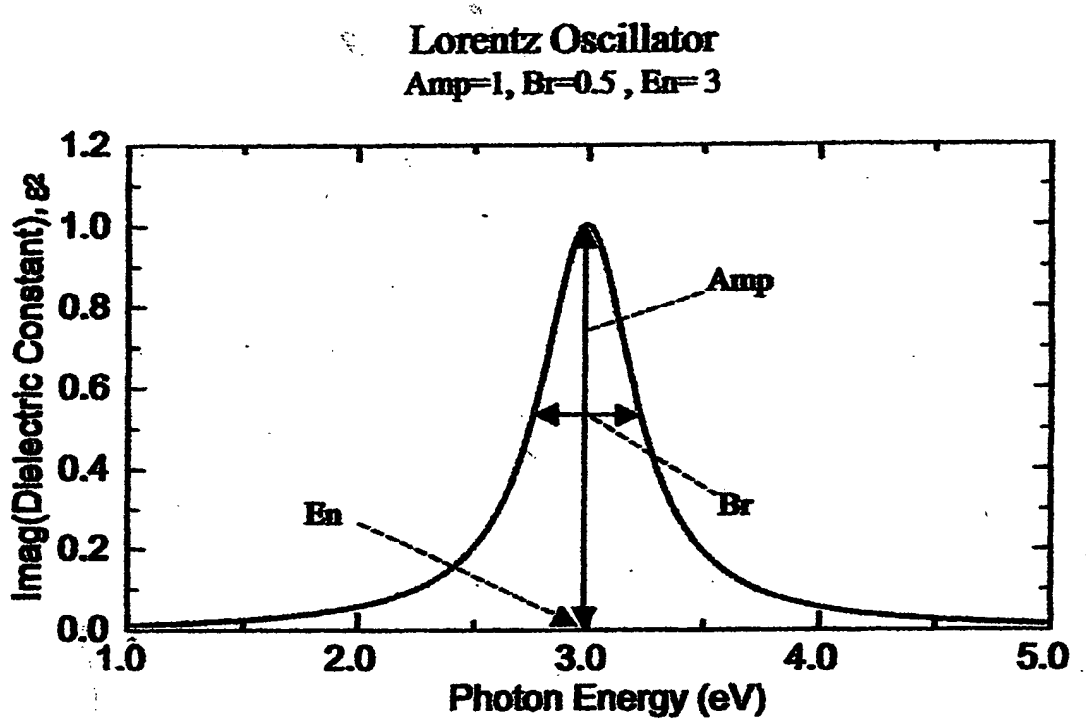
Lorentz Oscillator
Amp=1, Br=0.5 , En= 3
Imag(Dielectric Constant), ε2
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Amp
Br
En
1.0
2.0
3.0
4.0
5.0
Photon Energy (eV)

FIG. 4f

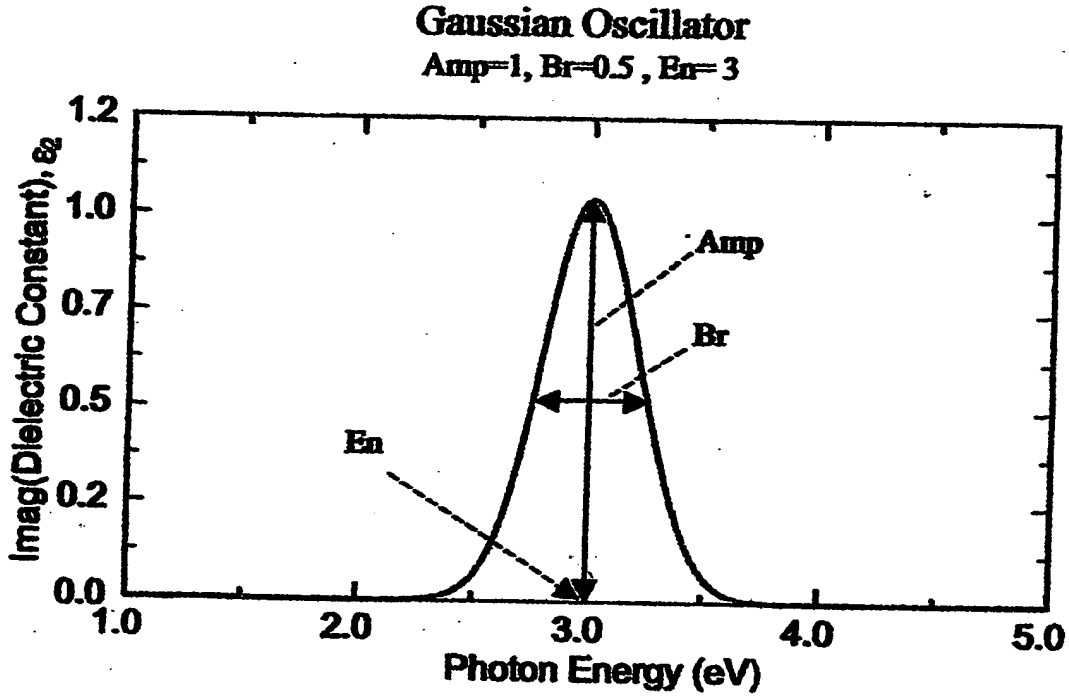
Gaussian Oscillator
Amp=1, Br=0.5 , En= 3
Imag(Dielectric Constant), ε2
1.2
1.0
0.7
0.5
0.2
0.0
Amp
Br
En
1.0
2.0
3.0
4.0
5.0
Photon Energy (eV)

FIG. 4g

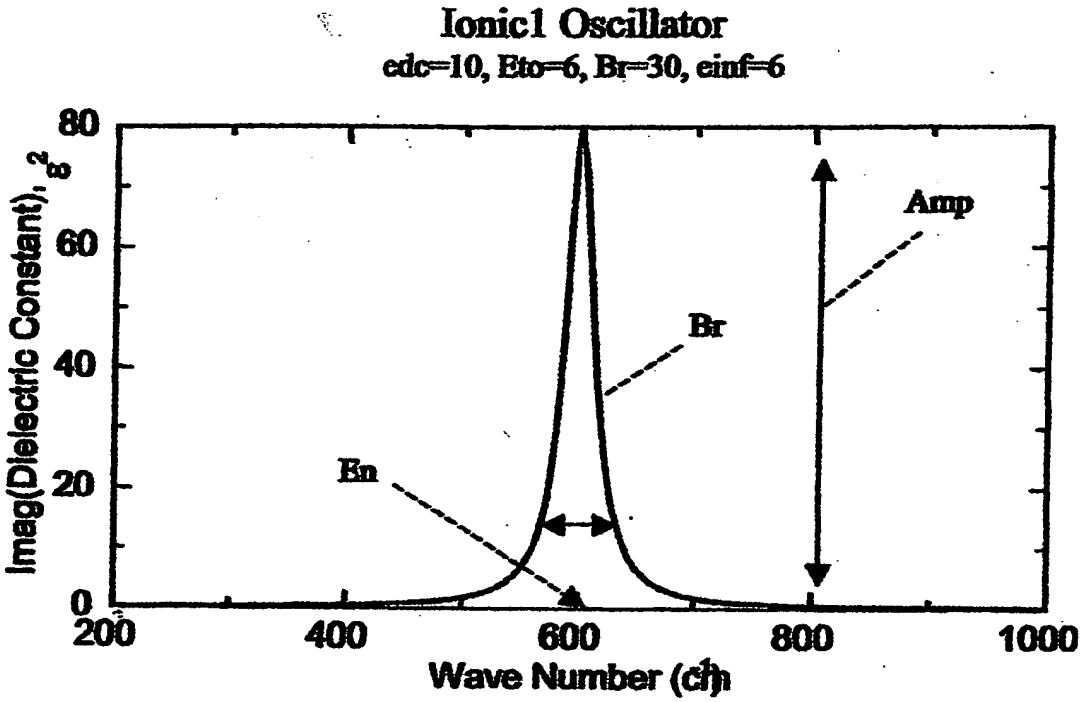
Ionic1 Oscillator
edc=10, Eto=6, Br=30, einf=6
Imag(Dielectric Constant), ε_2
80
60
40
20
0
200
400
600
800
1000
Wave Number (cm^{-1})
Amp
Br
En

FIG. 4h

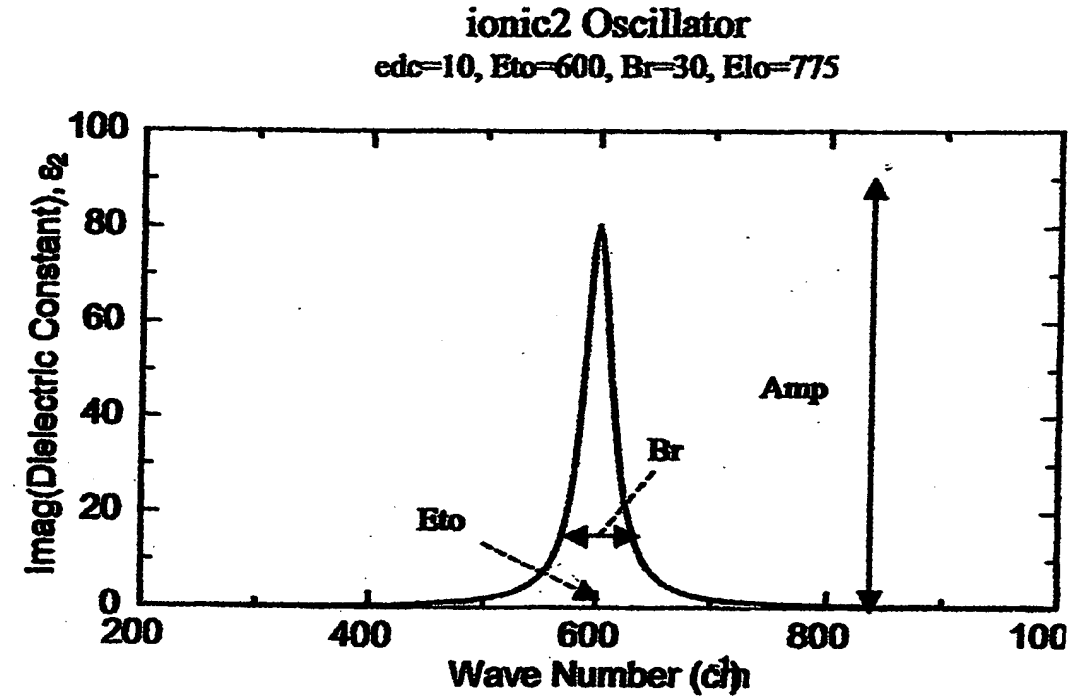
ionic2 Oscillator
edc=10, Eto=600, Br=30, Elo=775
Imag(Dielectric Constant), ε_2
100
80
60
40
20
0
200
400
600
800
100
Wave Number (cm^{-1})
Amp
Br
Eto

FIG. 4i

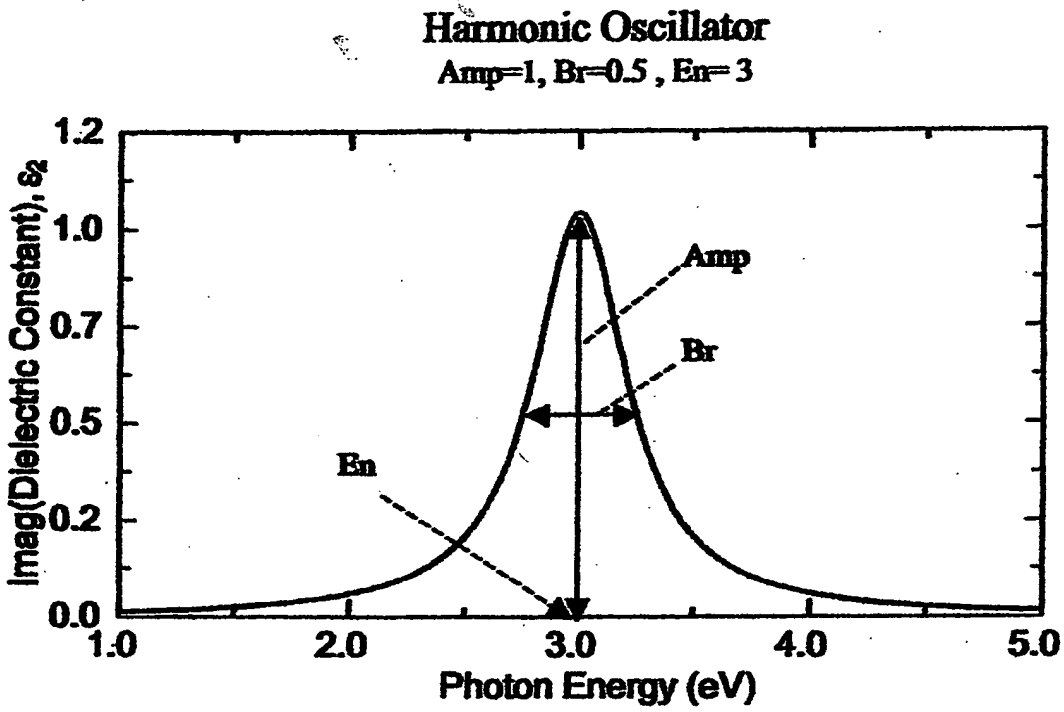
Harmonic Oscillator
Amp=1, Br=0.5 , En= 3
Imag(Dielectric Constant), ε2
1.2
1.0
0.7
0.5
0.2
0.0
1.0
2.0
3.0
4.0
5.0
Photon Energy (eV)
Amp
Br
En

FIG. 4j

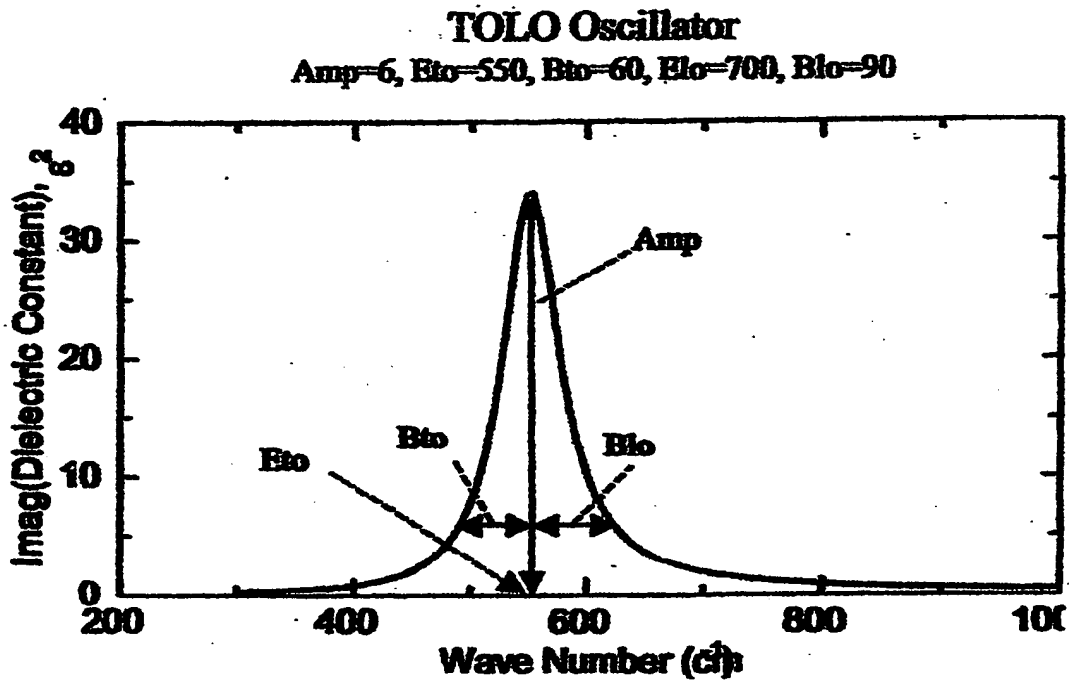
TOLO Oscillator
Amp=6, Eto=550, Bto=60, Elo=700, Blo=90
Imag(Dielectric Constant), ε2
40
30
20
10
0
200
400
600
800
Wave Number (cm-1)
Amp
Eto
Bto
Blo

FIG. 4k

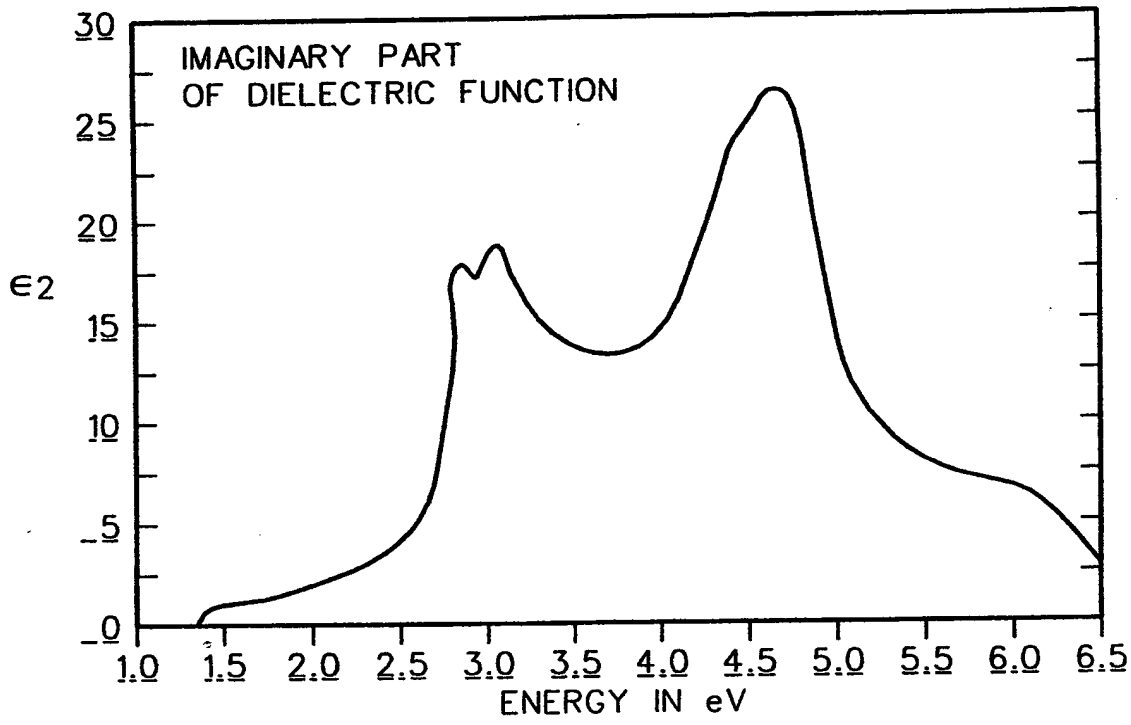
IMAGINARY PART
OF DIELECTRIC FUNCTION
ϵ2
30
25
20
15
10
5
0
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
ENERGY IN eV

FIG. 5

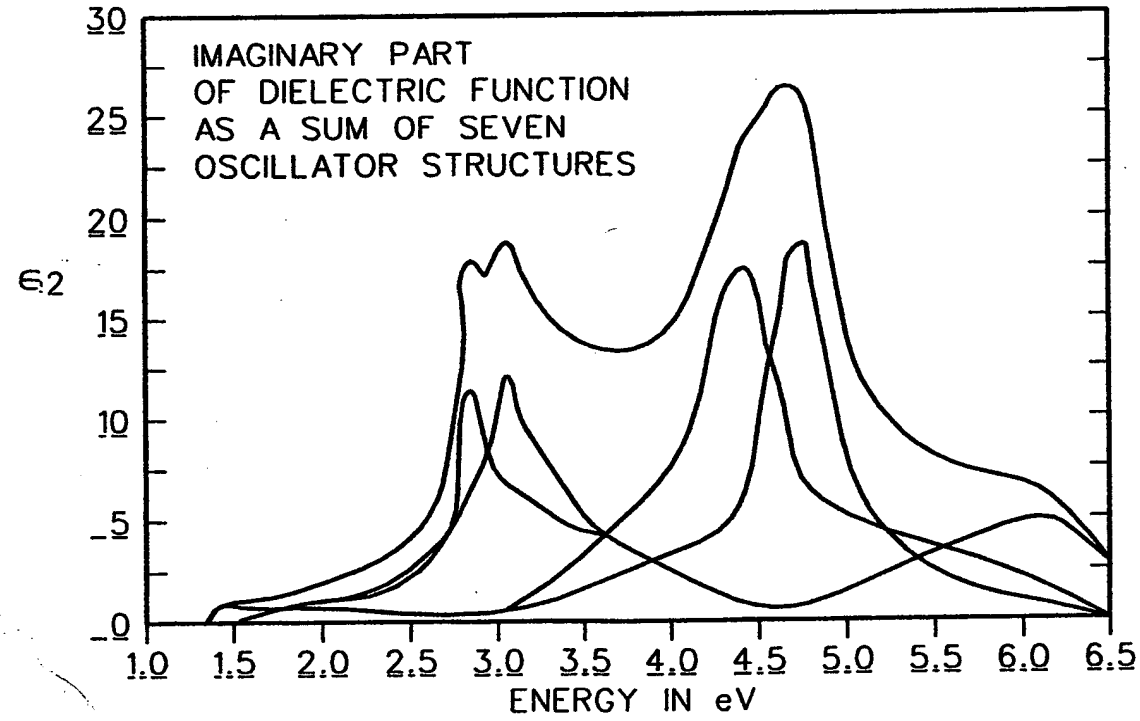
IMAGINARY PART
OF DIELECTRIC FUNCTION
AS A SUM OF SEVEN
OSCILLATOR STRUCTURES
ϵ2
30
25
20
15
10
5
0
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
ENERGY IN eV

FIG. 6

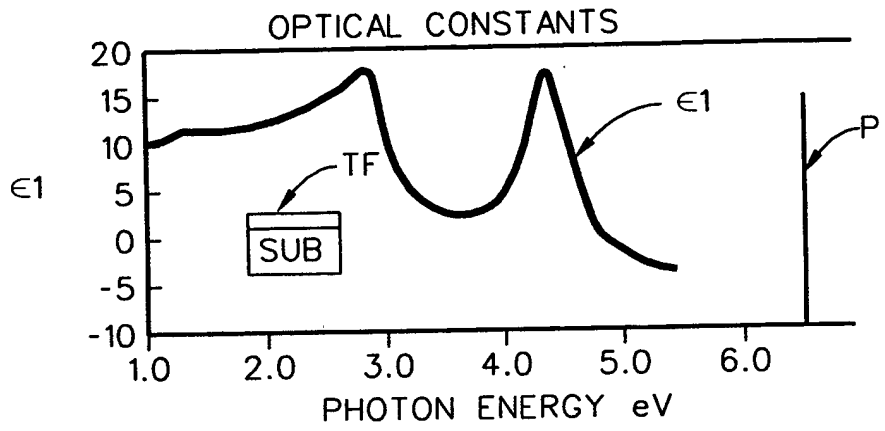

FIG. 7

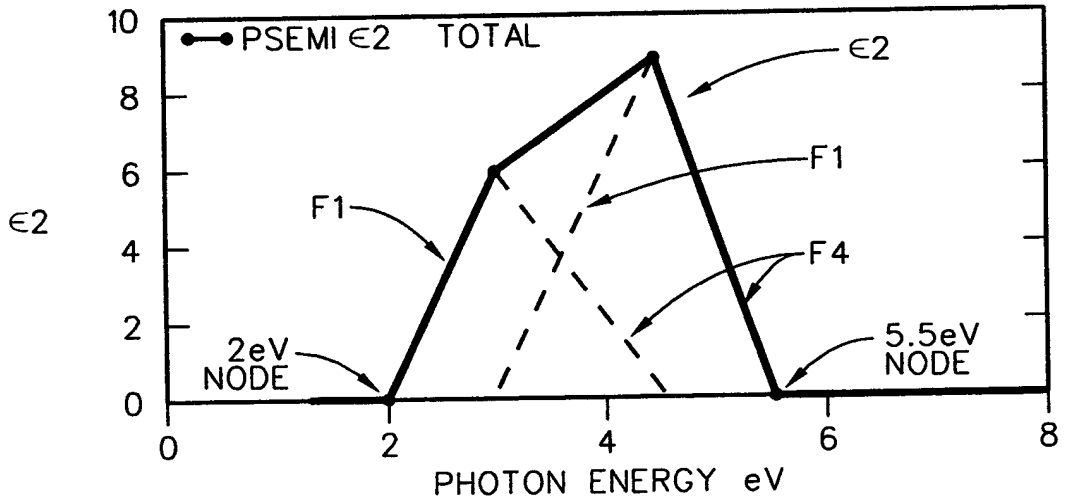

FIG. 8a

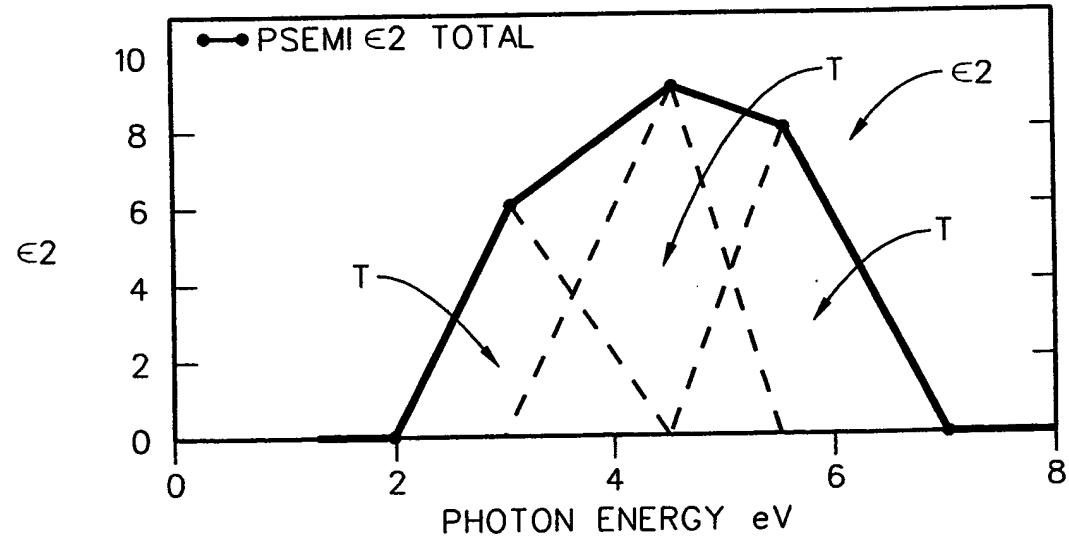

FIG. 8b

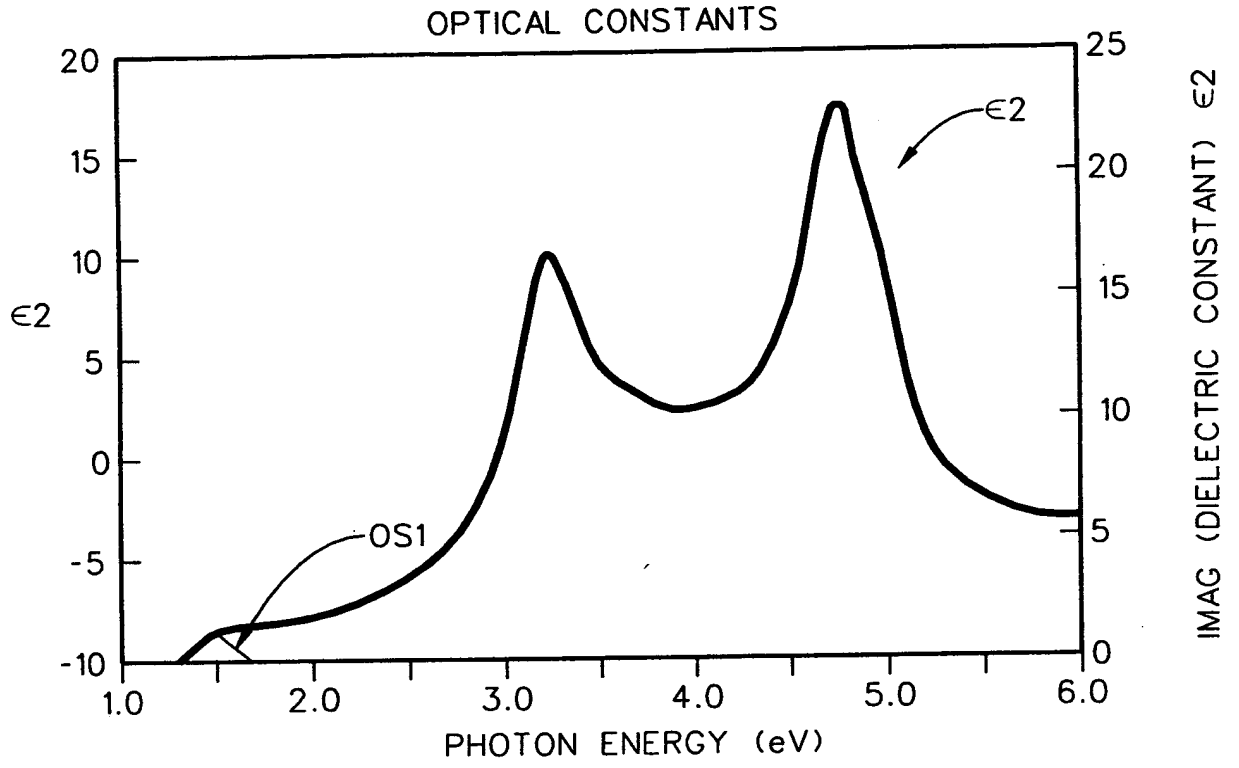
OPTICAL CONSTANTS
20
15
10
5
0
-5
-10
∈2
25
20
15
10
5
0
IMAG (DIELECTRIC CONSTANT) ∈2
∈2
OS1
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8c

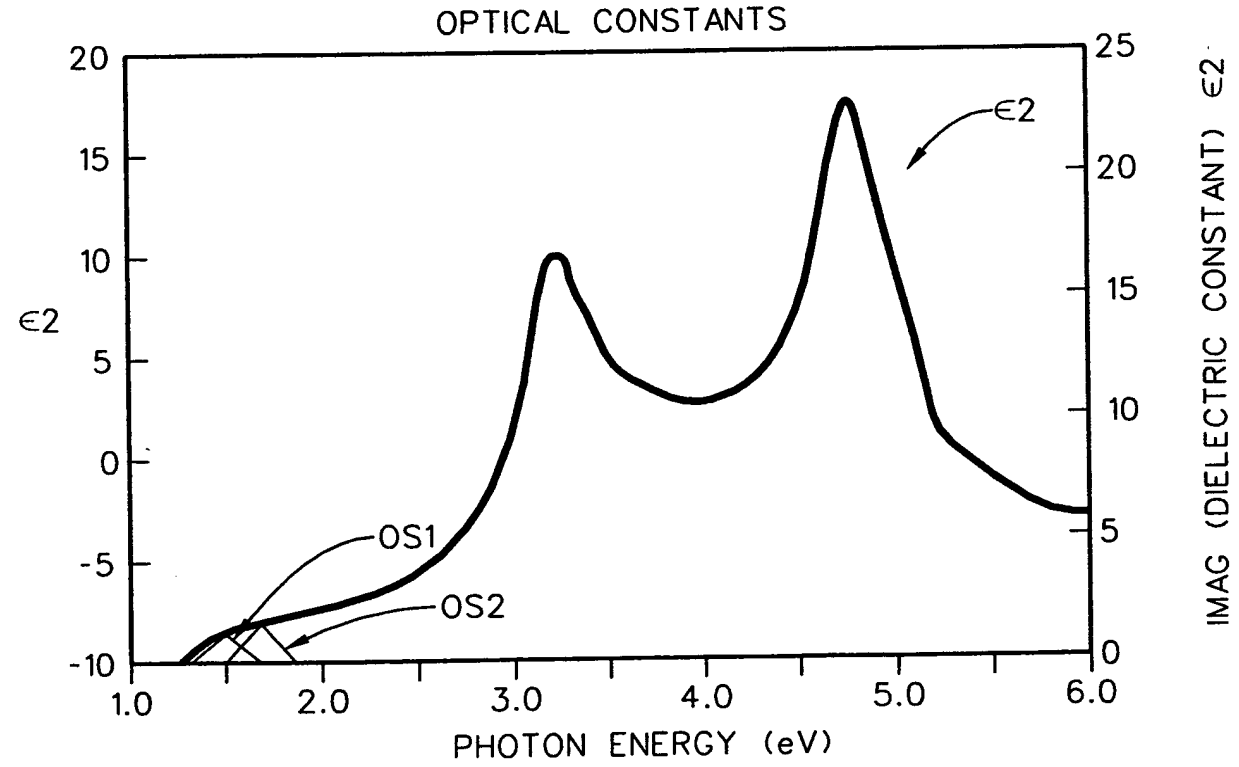
OPTICAL CONSTANTS
20
15
10
5
0
-5
-10
∈2
25
20
15
10
5
0
IMAG (DIELECTRIC CONSTANT) ∈2
∈2
OS1
OS2
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8d

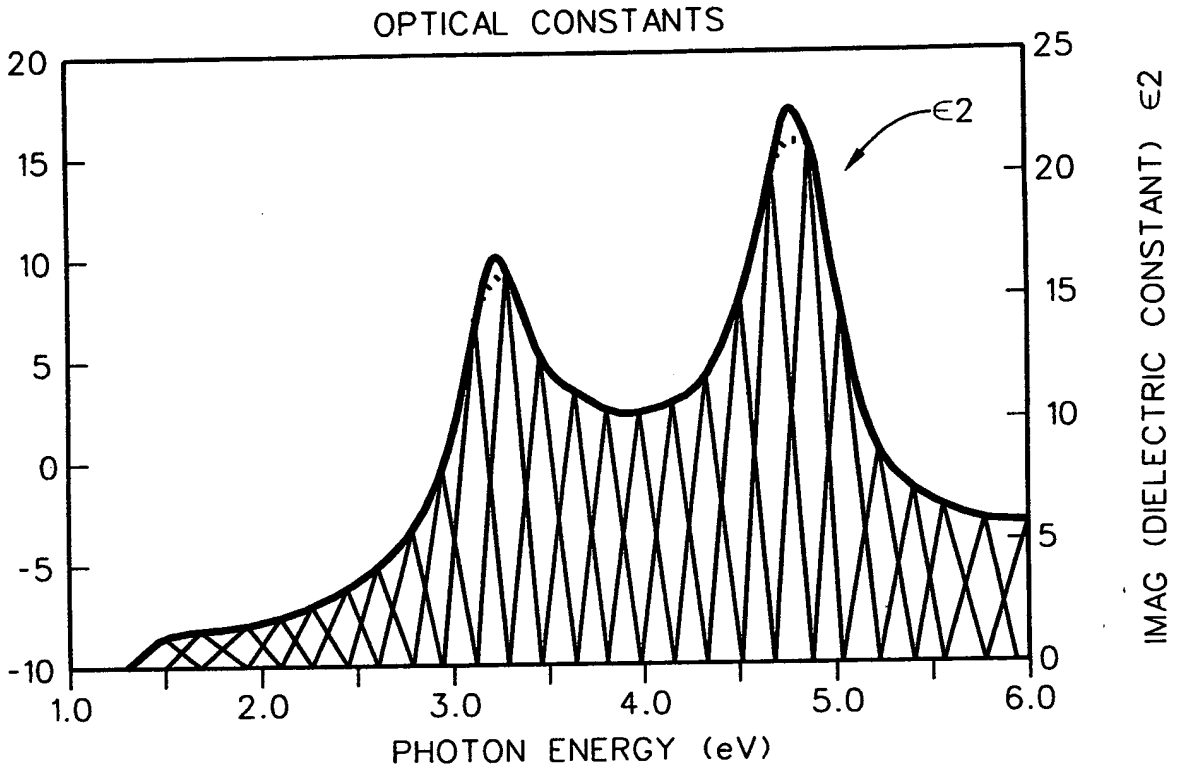
OPTICAL CONSTANTS
20
15
10
5
0
-5
-10
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)
25
20
15
10
5
0
IMAG (DIELECTRIC CONSTANT) ∈2
∈2

FIG. 8e

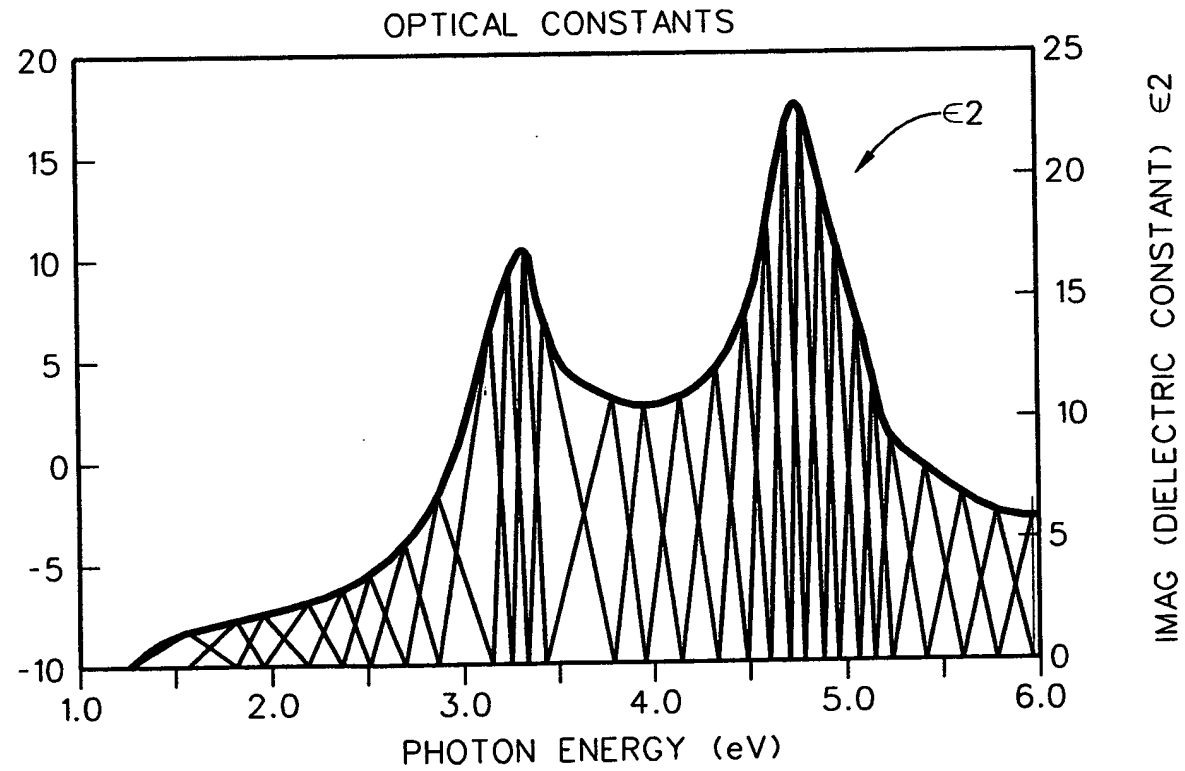
OPTICAL CONSTANTS
20
15
10
5
0
-5
-10
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)
25
20
15
10
5
0
IMAG (DIELECTRIC CONSTANT) ∈2
∈2

FIG. 8f

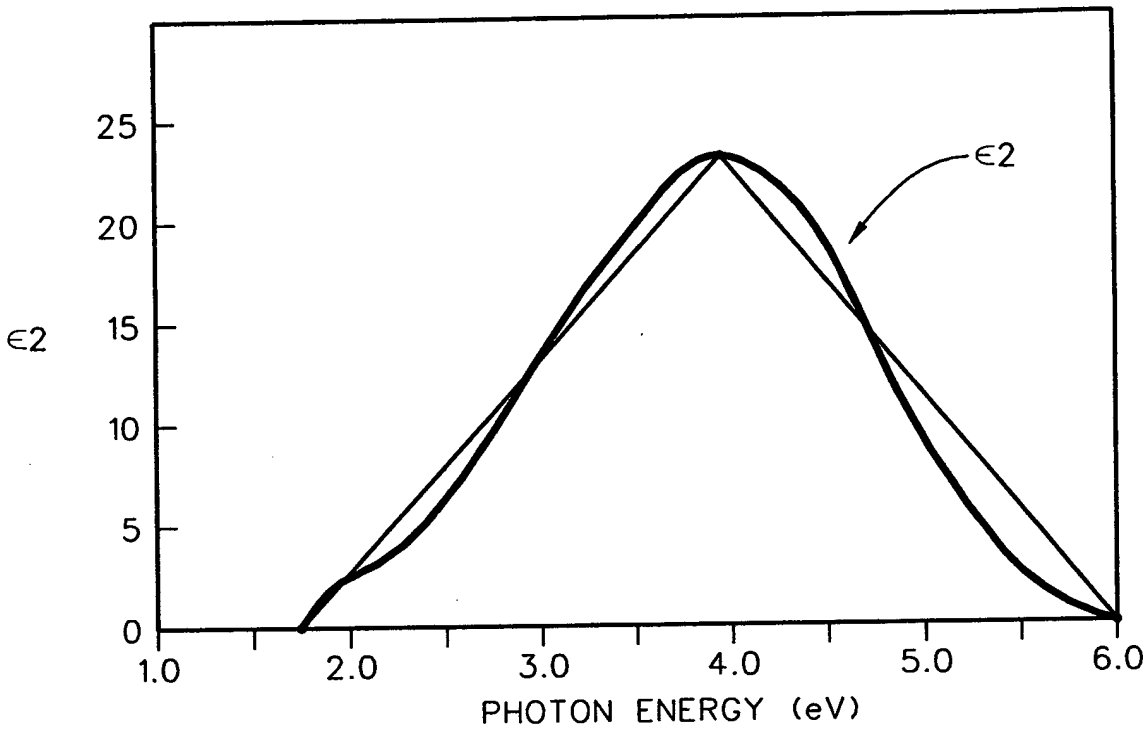
25
20
15
10
5
0
∈2
∈2
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8g

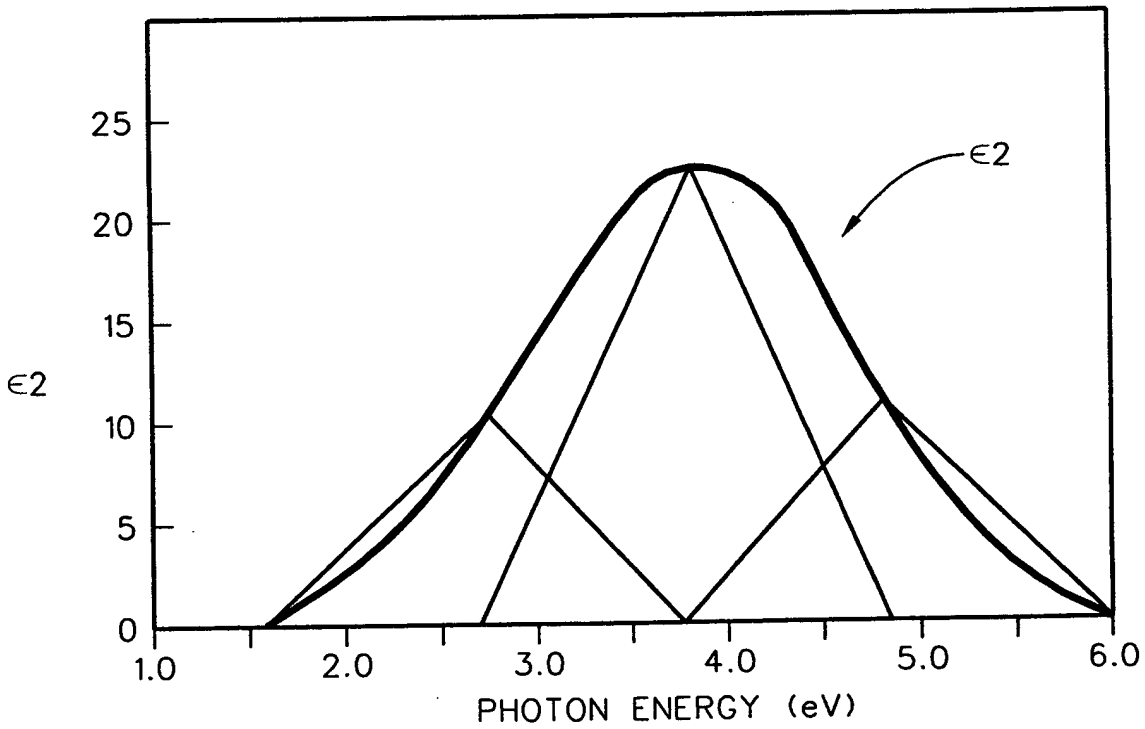
25
20
15
10
5
0
∈2
∈2
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8h

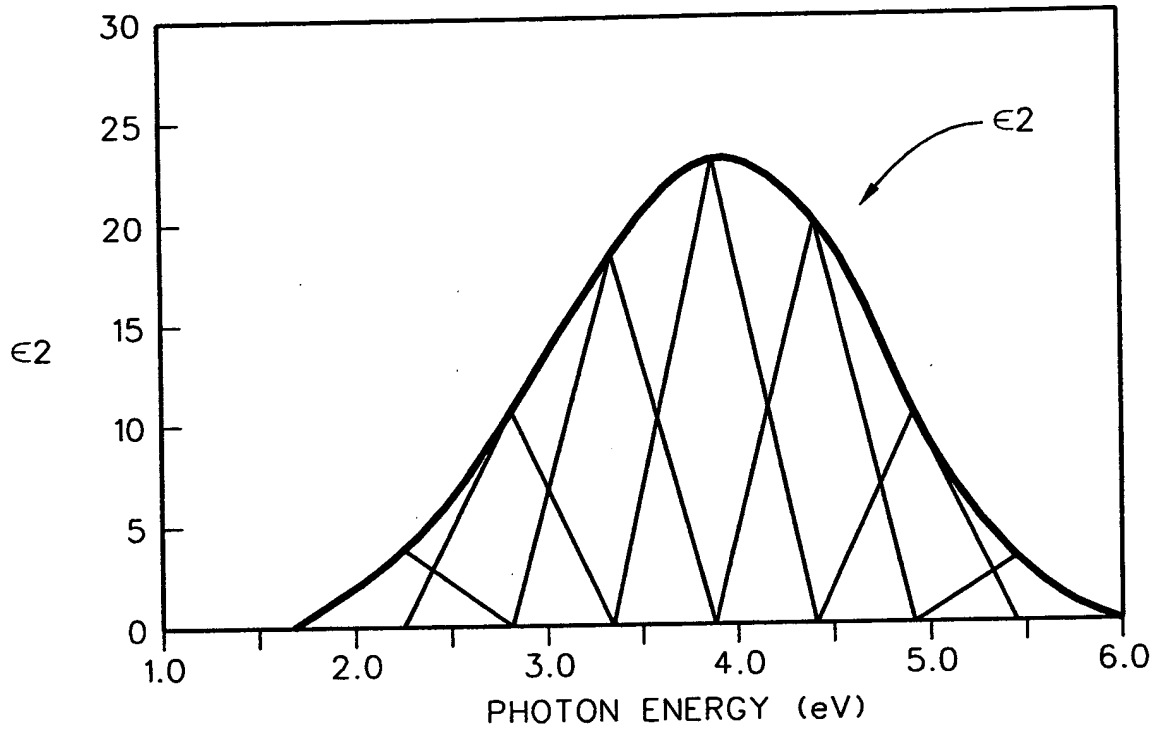
30
25
20
15
10
5
0
ϵ2
ϵ2
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8i

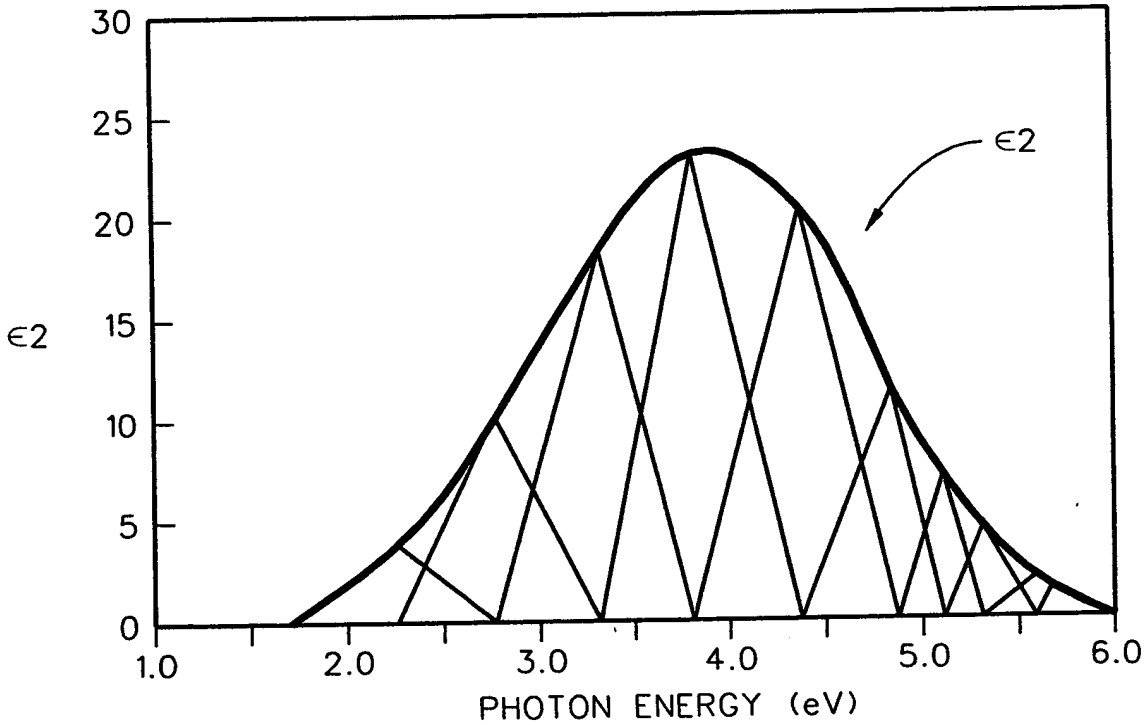
30
25
20
15
10
5
0
ϵ2
ϵ2
1.0
2.0
3.0
4.0
5.0
6.0
PHOTON ENERGY (eV)

FIG. 8j

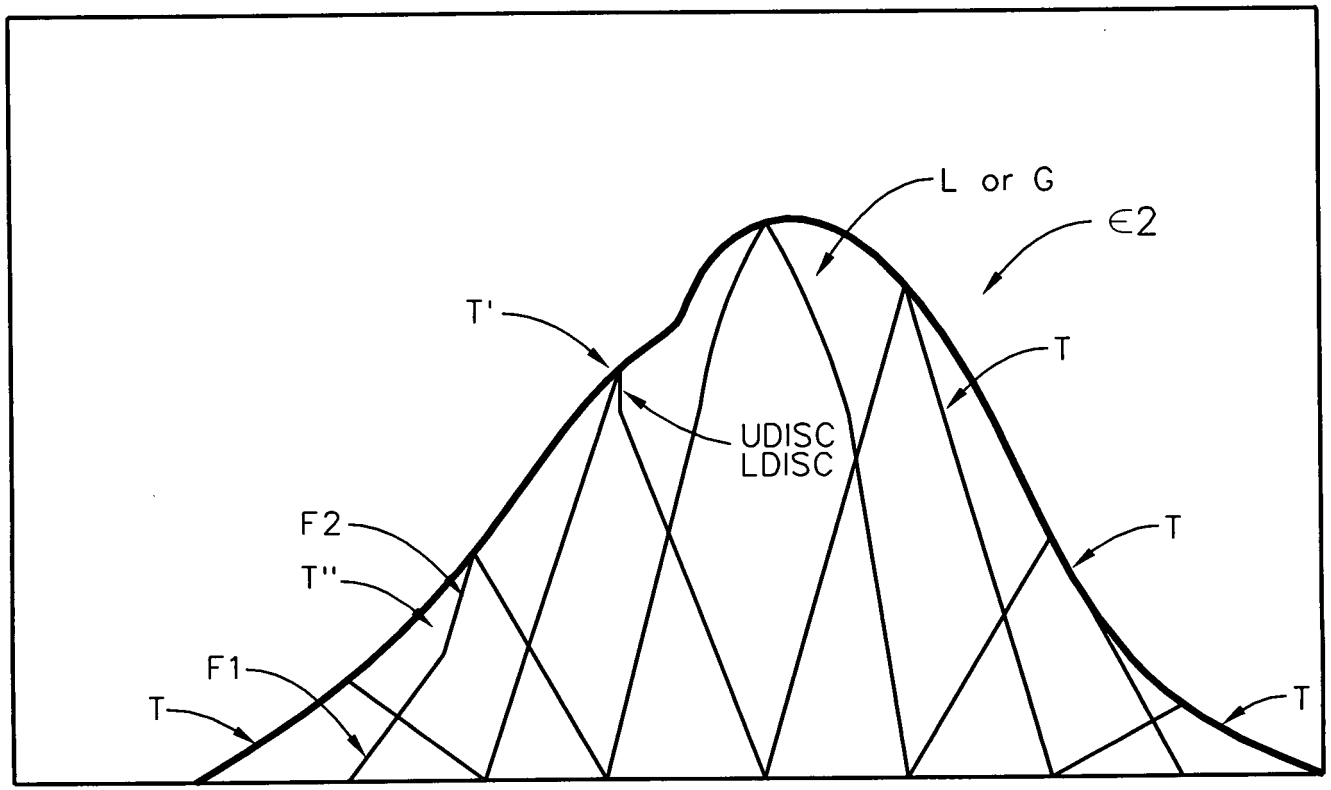

FIG. 8k